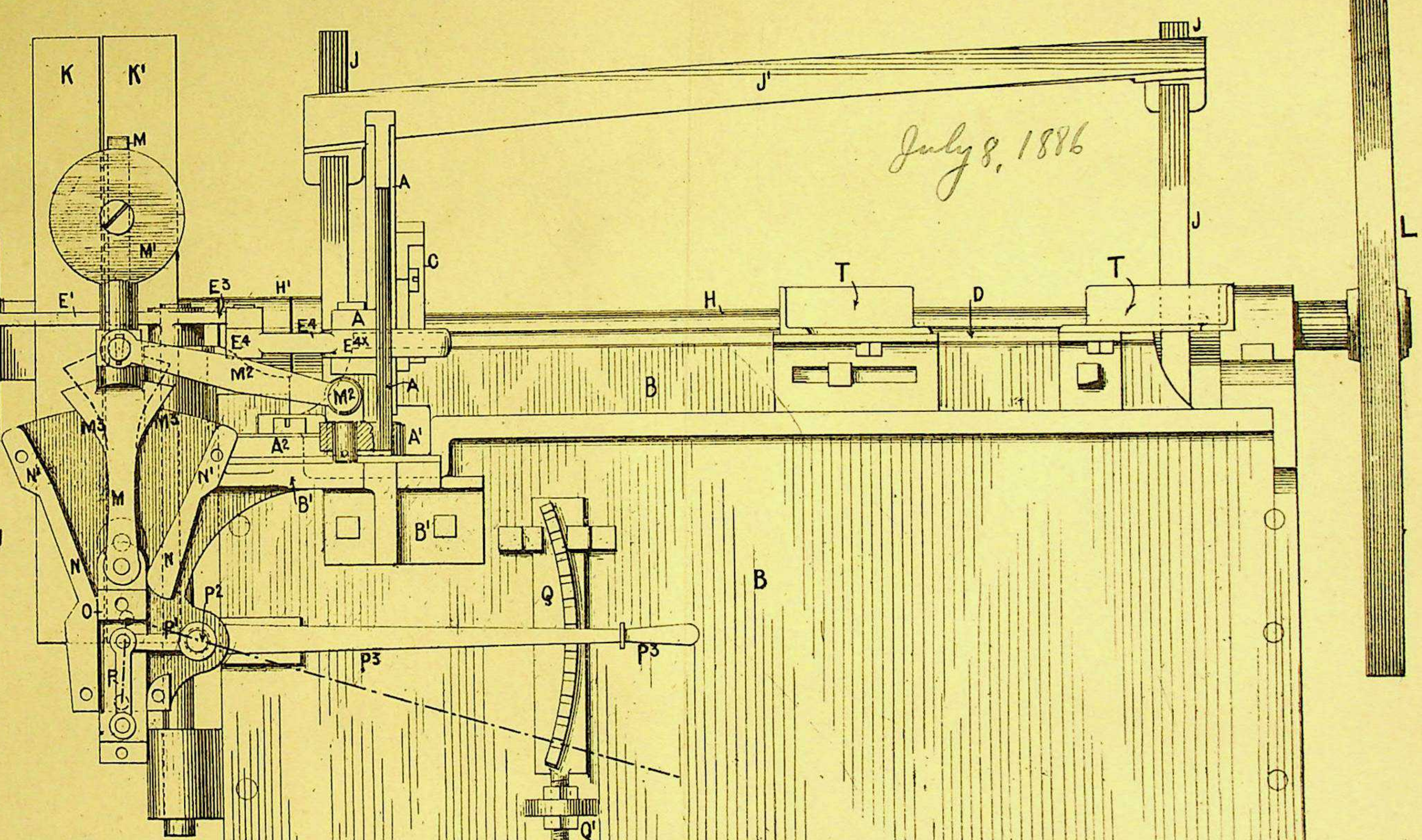
ORKING
Slate.

FIG.10.

Greaves 8931

July 8, 1886



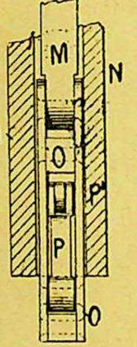


FIG.13

CB-188~~2~~-04

125-23.R

26

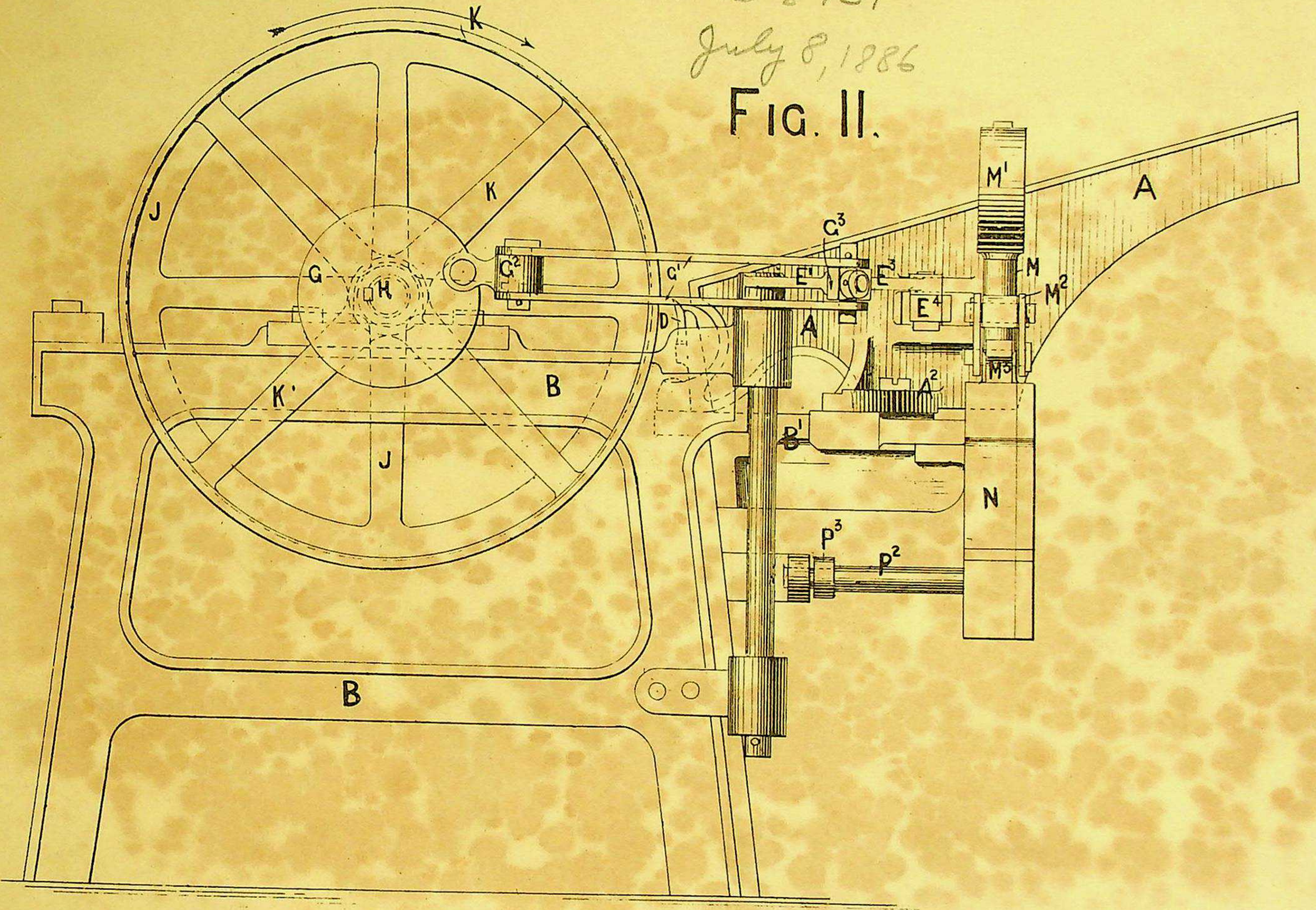
8931 — 1886

125/23.01

Greaves 8931

July 8, 1886

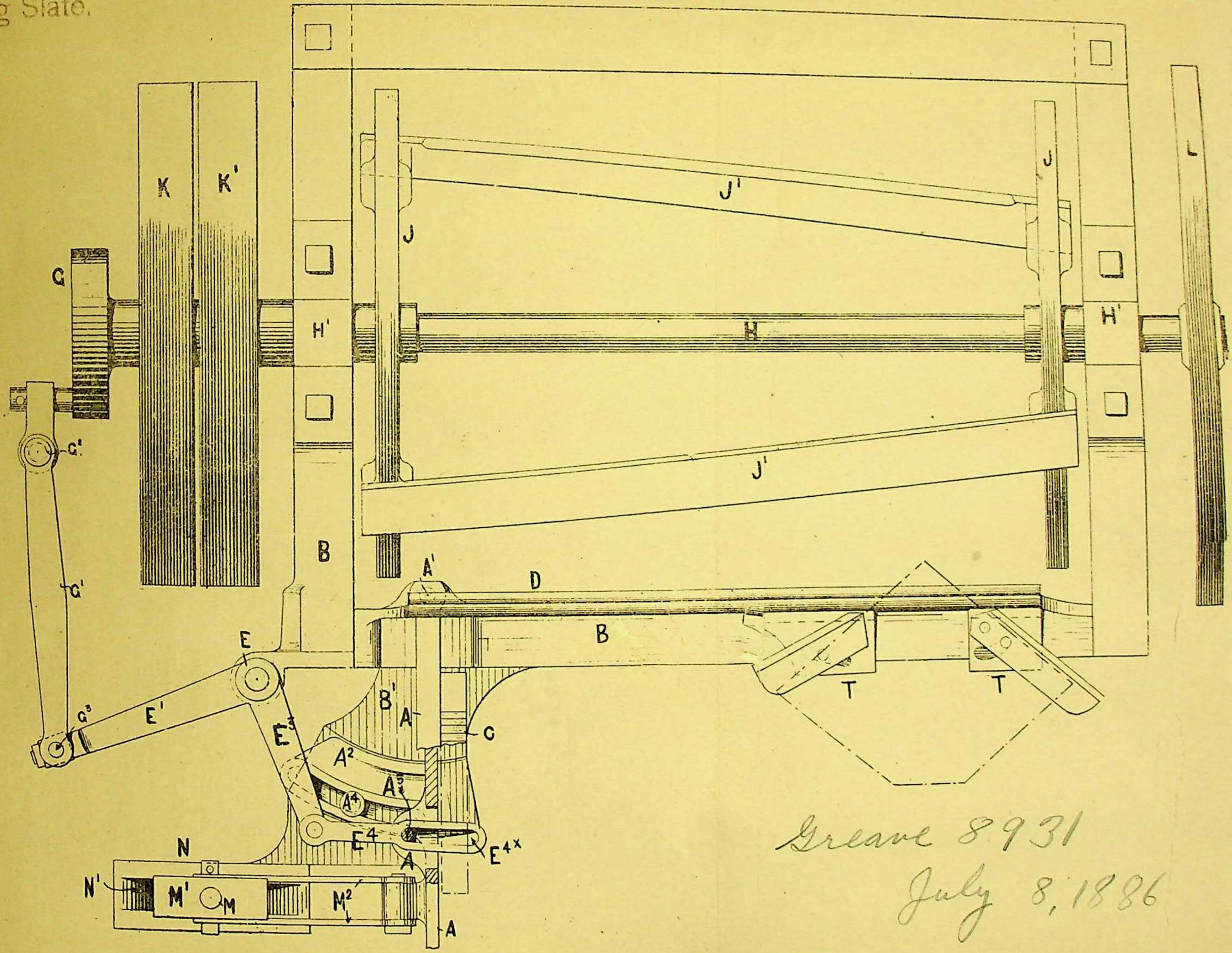
FIG. II.



8931-1886

STONE-WORKING
5. Dressing Slate.

FIG. 12.



Greave 8931
July 8, 1886

8931—1886

the gauge frame A in a midway position and a pulley K is to be driven in the direction shewn by the arrow in Figure 11. The crank pin through the connecting rod G and lever E^1 E^3 will cause (by means of the slotted connecting rod E^4) the gauge frame A to advance slightly to the right hand side, see Figure 10, and the arm M will be caused by the connecting rod M^2 to follow this motion; this travel will be sufficient to overbalance the arm M towards the right hand and the counterbalance weight M^1 will overcome the friction of the parts and cause the gauge frame to move to its extreme right hand position bringing the pin A^5 near to the end of the slot in the connecting rod E^4 and while in this position the knives shear off one edge of the slate which is being operated upon. The distance of this motion of the gauge frame is determined by the contact of the inclined planes M^3 on the rock arm M with the surfaces N^1 on the fixed case N. The backward motion of the crank G and parts connected therewith will now draw the gauge frame to the left until the counterbalance weight overbalances and carries the gauge frame A to the other or left hand side which it does in time for the second knife J^1 to shear one of the other edges of the slate placed in position by the operator. By raising or lowering the hand lever P^3 the throw or travel of the rock arm M and consequently of the gauge frame A may be altered at will; for example by lowering the said hand lever P^3 the shaft P^2 will be partly revolved and the arm P^1 raised, which motion through the link P will raise the position of the slide O in the case N and consequently raise the rock arm M as shewn by the dotted lines in Figure 10 and this alteration of the relative positions of the two inclines M^3 and N^1 will allow the rock arm M and also the gauge frame to describe a greater arc. A reverse or upward motion of the hand lever P^3 would shorten the throw and allow the gauge frame to travel in a lesser arc.

The angle to which the slates are cut being regulated by the motion of the gauge frame A, may thus be conveniently altered by moving the hand lever P^3, and for this purpose the rack may be provided with index letters or figures by which the hand lever could be set or re-set.

In order to cut off the corners to give the required lap to the slate I provide on the fixed knife frame B, guides or stops T Figures 10 and 12 which can be adjusted to the angle and distance required this can be regulated by inserting a template into or between the angle pieces or guides T when the same are secured in position for work.

Slate dressing machinery constructed and arranged as before described is applicable to machines or appliances now in use for dressing slate.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed I declare that what I claim is:—

First. In machinery for dressing or cutting the edges of slates at different predetermined angles, pivotting or hinging the gauge frame A to the framework B of the machine, so that its position may be varied relatively to the fixed knife D, in order that a guide may be so formed as to govern the angles to which the slate is required to be cut substantially as set forth.

Second. In slate dressing or cutting machines, the swinging gauge frame A operated by connecting rod E^4, lever arm E^3, counterbalance lever E^1 and lever arm F, actuated by hand or treadle; the degree or extent of travel of such gauge frame A being set and adjusted by set screw stops B^2 B^2, or equivalent means, whereby the position or inclination of the said gauge frame A may be varied, and such variation adjusted, and defined according to the angle to which the slate is to be cut or dressed, all substantially as hereinbefore described and illustrated with reference to Figures 7, 8 and 9 of the accompanying drawings.

Third. In slate dressing or cutting machines the mechanism for automatically changing and adjusting the position or angle of the pivotted gauge frame A, with the fixed knife D substantially as described and illustrated with reference to Figures 10, 11, 12 and 13 of the accompanying drawings; the position of the gauge frame A being changed by means and action of crank disc G, connecting rod G^1, lever E^1 E^3, slotted connecting rod E^4 and counterbalanced rocking arm M and connecting rod M^2, the extent of such produced motion being governed by relative position of surfaces M^3 and N^1 regulated by hand lever P^3, acting on shaft P^2, arm P^1, link P, and slide O, all substantially as set forth, together with any mere modification or modifications thereof.

Fourth. In slate dressing or cutting machines, the adjustable guides or stops T which may be adjusted to any desired angle or distance relatively to each other, for the purpose of setting or limiting the extent of cut to be taken and for cutting off the lap side, substantially as set forth with reference to Figures 10 and 12 of the accompanying drawings.

Dated this 7th day of April 1887.

BREWER & SON,
For the Applicant.

LONDON: Printed by Darling and Son.
For Her Majesty's Stationery Office.

1887.